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SCHOOL AND SOCIETY

EDITED BY J. McKEEN CATTELL

Volume 42 | SATURDAY, SEPTEMBER 21, 1935 | Number 1082

CONTENTS

Invention and the Student Laboratory: H. G. GOOD 385

A Challenge to Contemporary Education: PAUL KLAPPER 392

Educational Events:
Educational Work in the Schools and Prisons of Latvia; The Growth of Public Libraries in England; Work of the American Wildlife Institute; Gifts and Bequests to Universities and Colleges; Standards of Medical Education; The New School for Social Research; Training Teachers in Service at Northwestern University; Courses for Educational Workers at Teachers College, Columbia University; The National Headquarters of the Progressive Education Association; The Convocation of the University of the State of New York 395

Educational Notes and News 401

Discussion:
A Neglected Aspect of Vocational Guidance: STEPHEN M. COREY. *"Personality Tests" for Professors:* FORREST H. KIRKPATRICK 404

Special Correspondence:
The German "Dozenten-Akademie": HANS NABHOLZ 407

Quotations:
Secondary School Librarians in Great Britain 409

Reports:
The Youth Commission Plans for the Care and Education of American Youth: DONALD J. SHANK 410

Educational Research and Statistics:
Study Habits: C. W. REEDER. *A Comparison of the Intelligence of High-school Athletes with Non-Athletes:* ROWLAND H. JONES 413

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Volume 42 SATURDAY, SEPTEMBER 21, 1935 Number 1082

INVENTION AND THE STUDENT LABORATORY

By Professor H. G. GOOD

THE OHIO STATE UNIVERSITY

CLERK MAXWELL in a whimsical moment described a laboratory as a place for experiments filled with things which are generally in the way. We should especially notice that the place for experiments is to be well stocked with things. We have heretofore in this series[1] been dealing with language and other symbols; but in discussing the laboratory as a teaching institution we shall cross over the line which separates symbols from things, symbols for understanding and representing experience which the child has had from things and processes which result in new experiences. Only in the last few centuries, as a result of scientific and practical tendencies, have observation, experiment and the direct study of things been introduced into the school. Since the whole movement to which we are thus pointing is too large for present study we shall pay particular attention to the laboratory for the teaching of chemistry. The student laboratory, as distinguished from mere preparation-rooms on the one hand and research and demonstration laboratories either in pure science or in industry on the other, is one in which students themselves carry out regular courses of experiments.

Before the student laboratory could make its appearance the way had to be prepared. It was necessary that the knowledge of nature should become scientific, that natural knowledge should be gathered and tested, that tested knowledge should be organized under methods and laws. Science had to come of age, for one can not and would not teach a body of loose facts and hazardous opinions such as the encyclopedists of the seventeenth century mistook for science.

It was necessary, in the second place, that science should be proved useful by the discovery of important applications of science to the practical work of the world, applications to medicine, agriculture, mining and the arts in general. John Penington, an obscure young American author of the eighteenth century, lamented that "chemists themselves belong to two great and distinct classes," the operators, such as dyers and tanners, and the theorists "who can account for the action of oak-bark . . . without ever having smelt the odour of a tan-yard." The division between these two had to be bridged before the student laboratory could develop. The practical demand of the world of crafts, business and politics is the most powerful force in introducing new subjects into the school curriculum. Only later when they have become established, sometimes only after they have become moribund in the world outside, do the educators discover those informative, cultural and disciplinary values which

[1] For the previous articles, see SCHOOL AND SOCIETY for June 20, October 10, 1931; April 30, 1932; and June 23, 1934.

make them essential constituents of general and liberal education. And whether this broad fact is as stated or is otherwise it is certainly true that chemistry came into the curriculum of schools and universities because it was practically useful.

And the way had to be prepared by the spread of popular interest in the sciences of nature, an interest that, as it turned out, was sometimes serious, oftentimes frivolous, but which in either case prepared a wide clientele for natural studies. Finally, equipment and instruments had to be invented and sequences of experiments had to be organized before chemistry could be taught by experimental methods in the laboratory. In the half-century which is equally divided by the year 1800 these four lines progressed to a point which made the student laboratory a necessary step in the evolution of education, science and the arts. Experimental laboratories of alchemist and apothecary; chemical industries and works for assaying, distilling and bleaching; collections, exhibitions and demonstrations; popular lecturers on science, some of whom had preparation rooms and audience halls fitted with demonstration tables; and the private laboratories of a few masters of research who admitted an assistant or two to an apprenticeship in science: these were the historical antecedents of the student laboratory. Of several of these we shall give examples.

The laboratory in the universities long antedated that in the schools; and university laboratories do not occur before the seventeenth century. There was, of course, dissection in Bologna before 1300; and Vesalius's "Great Anatomy," *Fabrica Humani Corporis* (1543), illustrated in the high Renaissance manner, was the outcome of five tireless years spent in dissection and teaching at Padua. But in the next century, two professors at Altdorf had laboratories or at least collections and preparation-rooms: Sturm, who, on the model of the Florentine *Accademia del Cimento*, whose sessions he had attended, founded the *Collegium Curiosum sive Experimentale;* and Hoffmann, who had a chemistry laboratory built with university funds, perhaps the first in the world to be thus built. Both Sturm and Hoffmann seem to have given demonstrations before their students, but there is no hint of experimental work by the students at Altdorf.[2]

In the same century, Robert Boyle brought a German chemist to Oxford and set him up as a lecturer. The story from the diary of Anthony À Wood is interesting in itself and doubly interesting for its unusual portrait of the calm and judicial Locke. Under date of April 23, 1663, Wood says he

> began a course of chimistry under the noted chimist and rosicrucian, Peter Sthael of Strasburgh in Royal Prussia, and concluded in the latter end of May following. The club consisted of 10 at least . . . [including] Joh. Lock . . . afterwards a noted writer. This Jo. Lock was a man of turbulent spirit, clamorous and never contented. The club wrot and took notes from the mouth of their master, who sate at the upper end of the table, but the said J. Lock scorn'd to do it; so that while every man besides of the club, were writing, he would be prating and troublesome. This P. Sthael, who was a Lutheran and a great hater of women, was a very useful man . . . began with three scholars . . . [afterwards] he had taken in another class of six . . . [including] Dr. Joh. Wallis, Mr. Christopher Wren. . . .
>
> About the beginning of the year 1663 Mr. Sthael . . . built his elaboratory in an old house or refectory . . . wherein A. W. and his fellowes were instructed. The year following Mr. Sthael was called away to London and became operator to the Royal Society.[3]

That this chemical club had no official connection with the University of Oxford

[2] Martha Ornstein, "The Rôle of Scientific Societies in the Seventeenth Century," pp. 175–176; 230–231. Chicago: University of Chicago Press, 1928.

[3] Philip Bliss, editor, "Athenae Oxoniensis," (pp. lii–liii), by Anthony À Wood, London, 1813.

is clear; that the instructor read his lectures is definitely stated; and as he had an "elaboratory" he may have shown experiments, but for this there is no evidence in Wood. A little later than this, when the Ashmolean was opened (1683), "after the chief ceremony, the company went down to a newly fitted chemical 'elaboratorie,'" where they witnessed some experiments which gave great satisfaction.[4] This was the period when experiments were *shown* often by way of *illustrating* a lecture. A similar arrangement existed in the *Jardin des Plantes* in Paris in the same century.

Even the new world was not without the impulse to study nature directly. There is the well-known but historically insecure report that Comenius was invited to become president of Harvard. If the offer was ever made it may be doubtful evidence of a desire to change Harvard's medieval curriculum in the realistic direction. A later suggestion of change but still well within the seventeenth century was made by President Hoar, who had graduated from Harvard in 1650, had taken a medical degree at the English Cambridge and had been intimate with members of the Royal Society, especially with Boyle, to whom he wrote (December 13, 1672):

> We still hope some help from our mother land, of which your honored self, Mr. A., and some others have given pledge. . . . A large, well-selected garden and orchard for planting; an Ergastulum for mechanic fancies, and a laboratory chemical for those philosophers that by themselves would culture their understandings, are in our design, for the students to spend their times of recreation in; for readings and notions only are but husky provender.[5]

One can well believe that the writer of this letter was familiar with the contemporary realists; and indeed the language has a somewhat Miltonic quality that might have been caught from a reading of the sonorous *Tractate*. Nothing came of the request. Boyle left his funds to the projected College of William and Mary.

Laboratories, as has been indicated, were established by the scientific societies more frequently than by universities. Expensive equipment and time for its use could be provided only by such bodies or by wealthy amateurs like Boyle. Poor enthusiasts who were otherwise employed as apothecaries, physicians or teachers frequently got remarkable results without much equipment, as did Scheele, Priestley and Dalton in the following centuries. Such men were certainly serious investigators, but even some of these were unduly impressed with the curious and the marvelous in nature. And among the less serious students there developed a lunatic fringe of devotees. The laboratory became a part of the apparatus of men of fashion. Even Charles II had his laboratory. Such men were not concerned with the development of a science or of practical applications but with amusement and new topics of conversation. Such motives may be detected also in the letter by President Hoar or the name of Sturm's *Collegium* and they frequently crop out in the semi-scientific literature of the seventeenth and the following centuries. These tendencies may have been inevitable and, after all, science as amusement is capable of becoming as diverting as cards or stamps.

A further stage of popular interest in the new sciences was marked by itinerant lecturers, whose activities form an early example of what is called adult education. James Ferguson (1710–1776) was one of these science heralds. Son of a Scotch day-laborer, he was self-taught except for three months at a grammar school. He was a mechanical genius and although without mathematical ability he taught himself astronomy and mechanics. It was in April

[4] Quoted from T. E. James, *Nature*, 131: 716–717, May 20, 1933.

[5] Report of the Commissioner of Education . . . submitted . . . June 2, 1868, pp. 233–234. Washington, 1868.

of 1748 that he began to lecture, taking as his first subject the solar eclipse of that year, and for twenty-eight years he followed this vocation. Ferguson wrote many scientific papers and books. His knack for apt illustration and simple statement enabled him to write a work on physics that was long popular. His "Astronomy Explained on Sir Isaac Newton's Principles" (1756) was instantly successful. The thirteenth edition was revised by Sir David Brewster. It is fitting that this self-taught shepherd-boy's book should have served as William Herschel's introduction to astronomy.

The founding of the Royal Institution of Great Britain (1799) is another indication of popular interest in science; but here science was to be studied for its utility rather than for amusement, an ideal not always attained. Count Rumford proposed "a public institution for diffusing knowledge and facilitating the general introduction of useful mechanical inventions," or more tersely, "the application of science to the common purposes of life." The institution opened a lecture room and "a complete laboratory and philosophical apparatus with the necessary instruments."[6] This laboratory was immediately made famous by Davy and then by Faraday; but it was the lecture room with Davy on the rostrum and at the demonstration table which saved the Royal Institution from early extinction. Dr. Paris thought that Davy's auditors were chiefly "the gay and the idle, who could only be tempted to admit instruction by the prospect of receiving pleasure." Davy had somewhat the same opinion, yet he said that "some gave promise of becoming permanently attached to chemistry. This science is much the fashion of the day." There we have it; science was a fashion, a divertisement for the gay and the idle. And yet there was Faraday. On the other hand, Davy contributed to agricultural chemistry, invented the safety-lamp, which would have roused even the impassive Count Rumford, and in other ways made science useful to man. During the same period chemistry became not only useful but scientific. Lavoisier developed quantitative methods, introduced the chemical equation and arranged a table of elements. Dalton made a table of atomic weights and permitted Thomas Thomson to publish his theory in 1807. Berzelius has been called the organizer of chemistry and was to be closely followed by the work of Liebig, Wöhler, Dumas and the creators of organic chemistry.

By the second decade of the nineteenth century the motives for teaching chemistry as a science and the means of so teaching it were well developed, but these facilities were little used. Chemistry in 1815 was still being taught as it had been fifty years earlier, when Benjamin Rush wrote that he had seen Dr. Black perform, twice over, all the important experiments without indicating that he had ever performed one himself. He even ventures to say, "I think I am now master of the science." Teaching laboratories were practically non-existent except as a few of the masters admitted young men to apprenticeship. This was the practice of Vauquelin (1763–1829), who in a small private laboratory in Paris gave practical instruction to a few students. This was the practice of Berzelius at Stockholm. Many historians of chemistry quote some portion of Wöhler's description of Berzelius's laboratory of two small rooms. Berzelius had visited Guy's Hospital, London, and something in Dr. Marcet's teaching-practice had persuaded him to discard lecture methods and to teach through experiments and he began to do this in his own laboratory, as we know. But there was also, at Stock-

[6] "Complete Works of Count Rumford." Four vols. Boston, c. 1868. IV: 739–754; 771–785. See also Sir Oliver Lodge, "Past Years" (New York: Charles Scribner's Sons, 1932, p. 75) for an interesting account of his debt to the Royal Institution.

holm, a "public laboratory" in the medical school, conducted by an assistant, Mosander, the discoverer of lanthanum and didymium. What is known of it seems to imply that Berzelius lectured on chemical theory and Mosander gave the lecture-demonstrations. In Stockholm, in Paris, at the Andersonian Institution in Glasgow, at the Royal Institution in London, wherever there were more than two or three students to be instructed in chemistry the lecture demonstration was the best that the profession afforded. The laboratories which we have named were not different as far as accessibility to students is concerned from those of the seventeenth century.

The example of Thomas Thomson is materially different. If the evidence in the case were a little more precise and if we could feel certain of the accuracy of the testimony we might be able to settle the question of priority in the establishment of the student laboratory. The evidence comes from a close associate of Thomson, Walter Crum. He says: "Dr. Thomson [beginning in 1801] continued to lecture in Edinburgh till 1811, and during that time he opened a laboratory for pupils, probably the first established in Great Britain."[7]

It is almost certain that William Henry carried on experimentation in the Edinburgh laboratory, but we can not be sure that other students were granted this privilege or on what terms. The German historian of chemistry, Von Meyer, thought that "the first, although very small, laboratory giving young men opportunity to experiment was that of Thomas Thomson, which was opened in Glasgow in 1817."[8] This was the year of Thomson's appointment to the first separate chair of chemistry in the University of Glasgow, and the following year he was made Regius professor. In the course of time he had such students as Thomas Graham, Lyon Playfair, Stenhouse, Crum and others; but the arrangements and the intimate history of his laboratories at Edinburgh and Glasgow are not known. His influence upon Scotch industry is attested by Liebig, who visited Scotland in the autumn of 1837 and who, upon his return, wrote a seathing review of the condition of chemistry in Austria. "I have seen the country about Glasgow," wrote Liebig, "covered with chemical industries. It is the hub of one of the most important wheels of British industry. Thomson, for whom you have such slight regard; Graham; they are the cause of all this. . . . Fashioned from the same raw materials as ours, the English cottons flood our markets because their patterns and their dyes have been developed by trained men, chemists."[9]

We have just referred to Wöhler. Before going to Stockholm, he had experimented in the laboratory of Leopold Gmelin at Heidelberg. Wöhler's great contemporary and life-long friend was Justus Von Liebig, who about the same time was admitted into the private laboratories of Thenard and of Gay-Lussac at Paris. Such facts show the change that was taking place in chemical teaching. One by one the doors of the private laboratories were beginning to swing open, at least to talented students. But it still required the influence of Alexander Von Humboldt to give Liebig access to Gay-Lussac.

Liebig was to build a broad highway for students where there had been only a narrow and uncertain path. Appointed professor extraordinary at Giessen in May, 1824, again through Humboldt's support, he was given a bare room, which he gradually fitted up with apparatus and materials for his own work and that of his students;

[7] Walter Crum, *Proc.* [Royal] *Philos. Soc. of Glasgow.* 51st session, November 3, 1854. P. 252. See also *D. N. B.*

[8] Ernst Von Meyer, *Gesch. d. Chemie*, Leipzig: Veit and Co., 1889, p. 444. Translation of Third German Edition by G. McGowan, London: Macmillan and Co., 1906, p. 648.

[9] Justus Von Liebig, *Annalen der Chemie u. Pharmacie*, 25: 339–347, 1838.

but the money came not from the university but from his own pocket. Liebig had been appointed without having studied at Giessen. A new professorship of chemistry had been created, a chair that had not existed before, in a subject which in the opinion of most of his colleagues was no science at all. The cry of influence and favoritism was raised. A professorial party was formed against him and their machinations followed him even after he had left Giessen for Munich (1851). Those who think that Liebig had an easy task should read the memoir by Heinrich Kolbe.[10]

Although the almost universal opinion that the grand duke's appointment of Liebig provided an open sesame to success is erroneous, yet no account of the Giessen laboratory should dwell too long upon its difficulties. Those difficulties were surmounted. His own statement[11] implies that he began to teach by personal and individual methods as he had been taught by Gay-Lussac and as Wöhler was taught by Berzelius. Only after "students by degrees streamed in from all sides" did he develop a uniform plan. This plan was embodied in laboratory manuals prepared by his assistants, Fresenius and Will; and, to guide students in large numbers, a systematic plan and general directions were quite as important as space, tables, apparatus and reagents. The manual is an essential part of the student-laboratory. The subject had of course attracted chemical writers long before, and many of the books of the seventeenth century contain cuts and descriptions of apparatus.[12] But Faraday, in opening in 1827 the course of lectures which led to the preparation of his book, "Chemical Manipulation," could say:

> The subject is new to the lecture-room, and almost to the library; nor has it ever been considered in that full and explicit manner it deserves . . . that which is essential to the progress of everyone in chemical science has been taught only, in the very depths of the laboratory, to a highly privileged few, more indeed in the manner of an alchemical secret than of useful and experimental knowledge which should be open to all.[13]

But Faraday's idea of a laboratory, even though "connected with a public institution," does not exceed provision for more than one or two experimenters. "Chemical Manipulation" is not a class-manual; but it is an excellent source from which to learn what instrumental equipment was available a century ago, from which to learn in fact that nearly everything which was required had to be made by the operator himself.[14]

Manuals did not begin to issue from the Giessen laboratory until 1841, when Fresenius issued his Anleitung (sixteenth edition in 1907). The author's preface to the ninth edition has a history of the book up to that point. Will likewise published a manual of the Giessen course in 1846. To both of these Liebig contributed prefaces in which he certified that they were accurate descriptions of the course pursued in his laboratory.

Whether Liebig or some other first set up a fully developed teaching laboratory, it is not to be doubted that Giessen was the focus whence radiated the most effective influence for the reform of chemical teaching in a practical, experimental direction. Elementary chemistry long remained what Liebig made it. Its character has been described for us in general terms by Hors-

[10] Heinrich Kolbe, *Jour. für praktische Chemie*, N. F. 8: 428–458. 11, October, 1874.

[11] Annual Report . . . Smithsonian Institution . . . 1891. Washington: Government Printing Office, 1893. P. 264. Translation by J. Campbell Brown.

[12] Those who may not have access to the old books may easily verify this statement in Edgar F. Smith, "Old Chemistries." New York: McGraw-Hill Book Company, 1927.

[13] Henry Bence Jones, "The Life and Letters of Faraday." London: Longmans, Green and Company, 1870. 2 vols. I: 392, 395.

[14] Michael Faraday, "Chemical Manipulation." Philadelphia: Carey and Lea, 1831. First American edition edited by J. K. Mitchell.

ford's preface to Will's "Outlines."[15] That book begins with the metals divided into groups; each group is separately studied, emphasis being placed upon those tests by which the presence of each metal in its different forms may be determined. The behavior of acids with reagents, methods for detecting acids and bases in solution and an elementary introduction to qualitative analysis follow. The book closes with a few tables and the whole contains less than 150 small pages. The directions are so general that a beginner who would be unable or unwilling to think and to experiment in the most literal sense of the word could make no use of it. This introduction, as Horsford's preface explains, is to be followed by the "Hundred Bottles."

The modern book on qualitative analysis sometimes tends to give detailed directions and tabulations of methods and results which leaves to the student only the mechanical manipulation and the memorizing of "facts and formulae." For this development Liebig is not responsible. But his emphasis upon a too formal analytical procedure and the absence of illustrations of basic chemical laws, of the most instructive practical applications and of the history of the science have invited criticism. In these respects, progressive teaching practice has gone far beyond Liebig. In Germany Arendt and Willebrand and in England Perkin and Armstrong were leaders in the enrichment of elementary chemical teaching. In the United States also the *Journal of Chemical Education* and other influences are leading in the same directions, but we continued too long the pure analytical method, attempting to reduce the subject to its logical elements like belated Pestalozzians of about 1800.

If Liebig had not established a student laboratory, some other would before long have done so for the state of chemistry and the other sciences and the condition of education and industry made the result, it would seem, inevitable. Purkinje had established a small laboratory in physiology at Breslau in 1823, before Liebig. Magnus was soon to begin teaching physics by experiment in Berlin. Cuvier admitted Agassiz to his collections, and even in the still undeveloped United States, Amos Eaton at Rensselaer School was beginning to teach by observation and practice. Eaton, indeed, devised a general laboratory for teaching the applications of half-a-dozen sciences to the arts.

After the opening of Giessen, other student-laboratories were established in Germany: by Friedrich Wöhler at Göttingen in the course of the eighteen-thirties; by Bunsen at Marburg in 1840; by Erdmann at Leipzig in 1843 and by others in the eighteen-fifties at Heidelberg, Breslau, Königsberg, Greifswald and elsewhere. Laboratory instruction in chemistry was universal in German universities by 1860, just when the laboratory movement in our own country was getting started. The chemical student-laboratory in American universities developed in the second half of the nineteenth century and was followed at a short interval by that of the American high school. Physical laboratories every-

[15] Henry Will, "Outlines of the Course of Qualitative Analysis Followed in Giessen Laboratory." Boston: James Munroe and Co., 1847. The preface is unsigned, but was doubtless written by E. N. Horsford. It is dated at the "Cambridge Laboratory, September 1, 1847." Horsford had worked in Liebig's laboratory about 1842 and was speaking from personal knowledge. In the discussion which follows I have been aided by many writers but especially by the address of W. H. Perkin, Jr., on "The Modern System of Teaching Practical Inorganic Chemistry" (*Report Brit. Assoc.*, 1900: 681–693, and also *Nature*, 62: 476–481, September 13, 1900. Professor Perkin was mistaken in saying that Will's "Outlines" was "the first introduction to analysis intended for the training of elementary students which was ever published"; and this error has been repeated by others, for example, by A. and E. N. Hall, "Teaching of Chemistry and Physics," p. 18. New York, 1902.

where came in a little later, although physics was much older as a school and university subject.

The revolution in the methods of teaching science was followed by a similar although less complete transformation in other fields. Bacon, Rousseau and Pestalozzi since the seventeenth and eighteenth centuries had called for the object, the project, observation and investigation. They were heralds of the dawn; but it was the invention of the student-laboratory by providing rational incentives and feasible means that made education inductive and heuristic. And the methods of the laboratory overflowed into all other fields and taught historian, linguist and litterateur to teach from sources, to engage in practice and to appeal to nature and elementary, observable facts.

A CHALLENGE TO CONTEMPORARY EDUCATION[1]

By Professor **PAUL KLAPPER**
DEAN OF THE SCHOOL OF EDUCATION, COLLEGE OF THE CITY OF NEW YORK

EVERY college graduate is destined to become a teacher—some of us in the classroom, others in the home. Some reach comparatively few, others who enter public life and have ready access to the platform or the microphone influence large masses. I ask you, as teachers of to-morrow, to bear with me, for a short time, as I bring before you a vital challenge which has been hurled at American education. The outcome is so significant that it seems appropriate that we think about its implications together on this your graduation evening.

A society as replete as ours, with obvious conflicts and deep-seated maladjustments must continually subject itself to critical appraisal of the institutions through which it functions. There is a far-reaching breakdown in old patterns of living. We are beginning to doubt the beauty and strength of a highly competitive system based on the old Darwinian formula—the struggle for existence and the survival of the fittest. This may be an adequate law in the jungle. In society it becomes, too frequently, the struggle for existence and the survival of the slickest. We insist that life to-day should not be dependent on the outcome of a continuous struggle for existence, but rather that life be assured, by all the authority of the state, to the socially cooperative.

A second conflict in modern life lies in our loyalties. Shall loyalty to state supersede loyalty to mankind? Shall loyalty to religion dim loyalty to state? How shall we resolve our conflicting loyalties to family and to society, to self and to approved moral code, to science and to emotional mind sets?

Further conflicts arise from the contrast between the comparatively well-ordered individual life and the lack of planning in our communal life; between the tremendously accelerated advance in science and the retarded rate of the application of proved facts to the business of living; from our superiority in making machines and our inability to prevent these machines from disrupting our society; from our unparelleled skill in the process of production and our backwardness in achieving a just distribution. Not without truth was it said that the breadlines in many countries stood knee-high in wheat. Another significant conflict has its origin in the existence of a democracy which derives its life from the will of the people but which has no socially responsible machinery for developing an informed and intelligent public opinion.

The resolution of these conflicts, we are

[1] Address at the eighty-ninth commencement exercises of the College of the City of New York, June 19, 1935.

too prone to assign to education. The existence of these conflicts, we are likely to ascribe to the failure of our educational system. We have consistently exaggerated the influence of certain social institutions definitely charged with the education of our citizenry.

To be sure we distinguish schooling from education. The former refers to all the influences of certain very definite institutions set up to transmit our heritage and develop those habits and attitudes necessary for living usefully and happily. Education, on the other hand, includes the effects of all the institutions of society and of all the forces of life: the home and the camp; the school and the unsupervised activities of the day; guided factual or literary reading and the chance readings of advertisements or newspapers; the ideals of conduct taught by the church and the patterns of undesirable behavior suggested by undesirable companions; the stimulation of creative impulses by wholesome recreational or vocational experiences and the disintegrating effects of indolence. Education, in a word, is the cumulative effect of the total response to life.

In reconsidering the aims of education, we are not addressing ourselves to the informal, unorganized and socially uncontrolled agencies that educate all of us. These can have no concerted aim springing from a definite ideology. We have in mind, rather, the socially responsible educational agencies like the home, the school, the library, the camp, the church and the social settlement or play center.

Two schools of education are clearly recognized to-day. The younger group insists that education in a changing society must change more rapidly than society itself, otherwise, education can not lead; that it is the duty of education to foresee the next stage in social evolution and, by changing its aims, its content and its techniques, quicken the coming of the new day. The older school seeks earnestly to identify itself with individuals rather than with a stage in social evolution; to develop in each of them mastery of that knowledge, those skills and those attitudes which will enable him to take his place in any society. This older school strives to evolve those constants that make life livable: understanding of life, tolerance, unwillingness to accept slogans and tabus without critical judgment —in a word, those attitudes which are associated with intellectual alertness and intellectual integrity.

The new school is too prone to blame education very severely for the defects of society. If the cause of world peace is a forlorn hope, then, they argue, education is at fault, for it nurtured a chauvinistic patriotism. The older school insists that economic imperialism, old animosities carefully fanned into consuming flames by leaders possessed of inordinate lust for power, racial and religious antagonisms that misguided zealots will not permit to die, powerful military organizations eager to exhibit their strength—these motivations of the great war gods, argues the older school, are not taken into account by the newer school when it makes its devastating indictment against education.

As the debate continues, an inordinate faith in education is revealed. If juvenile delinquency is on the increase, we are told again that education has failed because it did not stress character development adequately. To this charge, the older school answers: economic pressure in the home, limited public recreational facilities for unemployed adolescents, failure to insure opportunity for gainful occupation to all willing workers, unsupervised, protracted vacations from school, a parent unable to guide or control his children because of his own limitations—these and other causes of juvenile delinquency are overlooked in the case against education.

Give us an education that makes for a

new order, the new school pleads with eloquence. The older school seems unmoved and answers, usually with less emotion.

We must grant that education is too much a product of the past and too closely identified with the present to shape an unknown future. Existing society continues essentially because a majority is unwilling to risk the loss that may follow its overthrow to establish something else. Society has reason to think that it knows the present, but it is uncertain about the future. Even if we were assured a future of our own choosing, we could not muster a majority behind any one plan of politico-economic life. Too many people have too much at stake in the present to agree on a future plan that would not only adequately safeguard their present privileges, but would also insure them a greater measure of a more abundant life. Society has always evinced a marked reluctance to exchange the realities of the present for the promise of the future.

Again, the older school asks: What if educators were to strike a bargain with society and make the risk of the present worth the promise of the future? What future would we promise? What is the next step in social evolution? No one knows, to be sure, but the new school with its prophets of greater socialization is willing to hazard more than a guess. It demands, therefore, that we educate youth to live in a society organized for common weal rather than for individual wealth. The followers of this school further maintain that unless we educate for a specific society, our very aims of education have no meaning. To them, an aim *per se* is an abstraction. They feel that one must identify his destination in a medium; otherwise one deals with disembodied objectives.

The connotation of an educational aim, they argue, changes with the social medium in which it is to operate. To illustrate: In our society thrift is made a cardinal virtue. Children and adolescents are taught to exercise self-denial in the present so that they may amass things for to-morrow; to sell the present for the uncertain future. But, say the prophets of greater socialization, we need a new definition of thrift for the new state. If the socialized state will insure each individual against illness, destitute old age, unemployment, then there is no need of thrift in the sense that we understand it. With this assurance granted by the new state, teachers would present, not thrift in the sense of personal aggrandizement, but rather as respect for public property. This new conception of thrift would beget a deep-seated abhorrence of all who did not render a full measure of service to the state.

All this follows logically enough, answers the older school, if the truly socialized state is the next inevitable stage in social evolution. But evolution has no fixed direction; it is rather a series of stages, some progressive, others regressive. The fascism of Italy and Germany and the absolutism of a proletarian dictatorship do not seem to many to be forerunners of the socialized state.

Those who give ready assurance that a collective society is the next stage in social evolution, are not too greatly perturbed by evidence of this alarming spread of fascism. Dictatorship, they readily explain, is a temporary stage, a transition from the diffused and decentralized government to the highly centralized control under a new collectivism. Fascism is thus, to them, a convenient integrating influence, facilitating the establishment of the new order which must remain, for the present, ill-defined. Evolution is thus naively assumed to be free from regressions, moving always from lower to higher stages—an entirely gratuitous concept born of the ancient practice of reading a desired intent into successive phenomena.

Neither time nor the occasion permits a fuller analysis of these contending schools

in contemporary education. You, the teachers and parents of to-morrow, must decide in which camp you will pitch your tent. Will you insist that public education train youth for life in a definite form of society which you envisage or that public education transmit that heritage of knowledge and those habits of mind which will prepare youth for life in a changing society. Whatever your decision, I do hope that you will not forget that too close an alliance between education and a definite politico-economic system is a dangerous union because it may deny to education the very freedom that is its essence. American democracy must not repeat that tragedy of shackled education found wherever dictatorship reigns, be it fascist or proletarian.

EDUCATIONAL EVENTS

EDUCATIONAL WORK IN THE SCHOOLS AND PRISONS OF LATVIA

A PLAN has been initiated to make it possible for city children in Latvia to spend their vacations in Lettish farmhouses, under an arrangement sponsored by Prime Minister Karlis Ulmanis.

According to *The Christian Science Monitor*, Mr. Ulmanis has taken this step so as to help to promote understanding between the population in town and the country inhabitants, which is one of the chief educational aims of the present government, consisting mostly of former representatives of the Farmers' Union.

The report states that "It must be frankly admitted that a great deal has been done during the past year for the benefit of the Lettish people, and most of these ideas owe their origin to the Prime Minister. Thus for more than half a year donations have continually been made by the public for the benefit of the country schools. Mr. Ulmanis gave the example by donating some books and money for an organ to the country primary school which he had attended in his childhood, and since that time many school libraries in the country have received hundreds of books from their former pupils who are now frequently prominent and well-to-do people in towns in the provinces."

It is hoped that this campaign will help the spread of education among the country population. The *Monitor* relates an incident which is regarded as a proof of the ruling desire for cooperation now existing among all classes of the Lettish people that occurred as a sequel to the celebrations of the anniversary of the Lettish Government on May 15.

Seventy of the heaviest class of delinquents in the Riga Central Prison were allowed to listen in by radio. They were so impressed by the radio speech of the Prime Minister that they decided to make a collection from their meager earnings in the prison and to send it to Mr. Ulmanis asking him, in an accompanying letter, to use this money for the benefit of the state.

Through the Minister of Justice the money and the letter have been handed over to the Prime Minister who wrote to the prisoners that their donation was a further proof that the work of the government begins to bless also those who have formerly committed deeds which were detrimental to the safety of the country and its population.

THE GROWTH OF PUBLIC LIBRARIES IN ENGLAND

THE work of the public libraries of London and the Home Counties, as reported in the London *Times*, has grown remarkably in the past 10 years. In 1934 the library service reached 1¾ times as many people as in 1924, and nearly 2½ times as many books were issued.

A report on the municipal library system of the area in 1934 (The Library Association: London and Home Counties Branch, price 1s.) summarizes the progress made in this period as follows:

	1924	1934	Percentage of increase
Population served ..	6,818,817	12,056,546	76.8
Books issued annually	23,237,887	56,905,176	144.8
Stock of books	3,139,804	6,537,870	108.2
Registered readers (home-reading only)	656,570	1,957,985	198.2

The development of the municipal library service during the past five years was even greater

than in the previous five years. In 1929 the population served was 7,633,962. This increased by 1934 to 8,676,280 (an increase of 13.6 per cent.). During the same period the number of books used annually by the public increased from 31,191,919 in 1929 to 47,463,286 in 1934 (an increase of 52 per cent.). Adult lending (or home-reading) libraries alone were responsible for nearly 13,000,000 of this increase; and the number of persons registered for home-reading rose from 923,164 (12.09 per cent. of the population) in 1929 to 1,445,649 (16.6 per cent. of the population) in 1934. During the period the number of books lent for home-reading increased by 60.2 per cent., and the number of persons registered by 56 per cent.

The county libraries, as might be expected in a new and quickly developing service, show even more rapid growth during the period. The population they serve increased from 2,865,656 in 1929 to 3,380,266 in 1934; their issues of books rose from 4,186,837 in 1929 to 9,441,890 in 1934, an increase of 125 per cent.; their registered readers in 1929 numbered 250,173 (or 8.73 per cent. of the population) and in 1934 had increased to 512,336 (or 20.7 per cent. of the population); and their stock of books, which in 1929 was 480,287 volumes, reached a total of 996,296 volumes in 1934, an increase of 107 per cent.

Inter-library relations also have developed rapidly during the past few years. Most of the libraries within the area are now linked for the purpose of utilizing the book resources of the entire area to meet the special needs of individual readers at any library. The metropolitan boroughs have combined to form the London Union Catalogue of the non-fictional books in the constituent libraries, containing over 1,250,000 entries and designed to act as a guide for use in the scheme of inter-library lending that has been instituted. Most of the other libraries in the area of the report have combined to form the South-Eastern Regional Library Bureau, which does the same work for the counties surrounding the metropolis. In addition, these schemes, and most of the individual libraries, are linked with another chain of public and special libraries throughout the country by means of the National Central Library. The effect of this development of the public library service is that an individual reader at any local library, instead of being confined to the stock of that library, now has the use of a potential stock of several million volumes.

WORK OF THE AMERICAN WILDLIFE INSTITUTE

JAY N. DARLING, chief of the U. S. Bureau of Biological Survey, at a meeting in New York City of the recently organized American Wildlife Institute, announced a gift of $30,000 annually over a period of five years, toward defraying the cost of installing the game management courses to be given in the Land Grant Colleges. He announced also a contribution of $20,000 to lay the ground work for an international federation of sportsmen and wildlife agencies and to finance a "Congress of Wildlife Interests."

The American Game Association, which was organized in 1911 and has 3,000 active and 75,000 affiliated members, also met and voted to turn over its equipment, personnel and activities to the American Wildlife Institute, which will carry them on in the future.

Seth Gordon, who has been president of the American Game Association since 1931, resigned to become secretary of the institute. The association will continue as a legal entity because of certain endowments, but it will become an inactive member of the institute. Its official publication, *American Game Magazine,* will be published in the future as *American Wildlife.*

A ten-point program has been adopted by the institute. It calls for leadership in state and national legislative action on wildlife subjects; utilization of the public domain for wildlife refuges and use of federal forest lands similarly; elimination of water pollution and cooperation with Canada and Mexico for the general purposes of the institute.

Mr. Darling made a statement in which he said in part:

> The Federal Government, through the Biological Survey, will furnish federal funds for administration and an equal number of units with a similar objective. Each land-grant college will contribute $6,000 in funds, equipment or service to match the donation from the American Wildlife Institute or the Biological Survey as the case may be, and the

Game Commission, as a third party to the three-way cooperative agreement, will contribute $6,000 in cash or its equivalent. Thus each state in which a game-management station is established will have an annual budget of $18,000 with which to promote an increased wildlife population.

The land-grant colleges are selected according to their location best to serve regional conditions—one for the lake states, where wildlife problems are similar throughout the neighboring territory; one for the prairie states, one each for the semi-arid Southwest, New England, South Central, Pacific, Atlantic and Rocky Mountain regions.

The institute will take over the annual American Game Conference, which in the past has been held in New York City, and will transfer it to Washington as a conference on wildlife, to be held some time in the winter.

GIFTS AND BEQUESTS TO UNIVERSITIES AND COLLEGES

MONEY and property amounting to more than $165,000,000 have been received during the four academic years beginning with 1930, by thirty-one leading colleges and universities, according to a compilation of gifts and bequests prepared by the John Price Jones Corporation.

Included are 27 of the 47 institutions in the United States having endowments of more than $5,000,000, representing all sections of the country. From 1930 to 1933, giving declined sharply. In 1933–34 another decline was registered, but of far less severe proportions.

The total amounts for the four academic years were as follows:

1930–31	$ 74,456,326.89
1931–32	45,817,176.90
1932–33	24,555,021.45
1933–34	20,657,891.78
	$165,486,417.02

An actual upturn was noted in giving to the eight women's colleges included. They received in 1933–34 $1,086,171 as against $980,281 in 1932–33. The total amount received by all institutions through bequests rose from $3,892,561 in 1932–33 to $5,230,186 in 1933–34. On the other hand, gifts fell from $20,678,222 to $15,819,577.

The institutions included in the report are: University of California, Carnegie Institute of Technology, University of Chicago, Columbia University, Cornell University, Dartmouth College, Hampton Institute, Harvard University, Haverford College, The Johns Hopkins University, Lehigh University, Massachusetts Institute of Technology, University of Minnesota, New York University, Oberlin College, University of Pennsylvania, Princeton University, Rutgers University, Stanford University, University of Virginia, Western Reserve University, Williams College, Yale University, Barnard College, Bryn Mawr College, Mount Holyoke College, Radcliffe College, Rutgers University (Women), Smith College, Vassar College and Wellesley College.

STANDARDS OF MEDICAL EDUCATION

THE deplorable conditions in medical education of thirty years ago again threaten this country, unless doctors, educators, state boards of examiners and public authorities combat present tendencies, according to the *Journal* of the American Medical Association, as reported by Science Service. The report of the Council on Medical Education and Hospitals in the United States and Canada gives a general survey of conditions.

It points out that financial stringency in recent years has caused some medical schools to rely more largely on income from student fees. Thus, larger numbers of students have been accepted for the money they will bring in. Unfortunately, in most instances the teaching staff has not been correspondingly strengthened or the physical plant commensurately enlarged.

More alarming to the American Medical Association than undermanned faculties and overcrowded laboratories is the failure of some schools to maintain high academic standards in the selection of students. Too many applicants with poor scholastic records are being accepted, with the inevitable impairment of school efficiency.

Thirty years ago there were 160 medical schools in the United States with an enrolment of 26,147 students. The American Medical Association sprang into action with its council on medical education. The Carnegie Foundation for the Advancement of Teaching helped out with its publicity. Ten years later the number of schools had been reduced to 96 and the enrolment to 14,891.

Now in 1935 there are again some 23,000 med-

ical students. Medical schools still are fewer and better, but the factors that caused the conditions of a generation ago are again at work and history is repeating itself.

THE NEW SCHOOL FOR SOCIAL RESEARCH

FOR the first time since its founding in 1919, the New School for Social Research will offer more than a hundred courses for adults during the academic year 1935–36 which opens Monday, September 30. New names appearing under the list of instructors include:

John T. Flynn, who will give a series of twelve lectures on current affairs in which he will discuss the rapidly shifting events in the field of social, economic and political affairs. James Rorty, the advertising critic, will give a functional critique of advertising in which the subject will be analyzed from the points of view of industry, trade, the public and the profession; the types of advertising appeal and their effect on culture. Gaetano Salvemini, of the Widener Library at Harvard University, will conduct a course on Europe and the Triple Alliance. Robert Frost, following an absence of two years, will give four lecture-readings of his poetry on Thursday evenings. Following Mr. Frost's lectures, Francis Hackett, author of "Henry VIII" and "Francis I," will give six lectures on "Adventures in Literature," including the problems of the historical biographer, the novelist, the critic and the literary journalist. John Chamberlain, book reviewer for *The New York Times*, will survey the general output of books since 1930 in the fields of fiction, poetry, criticism, social science and philosophy.

In addition to its already wide variety of courses in the social sciences, philosophy, literature, economics, sociology, housing, science, education, art, music, the dance, courses in the field of social work will be included in the curriculum of the New School for the first time this autumn. The need for such courses and the lack of facilities adequate to meet the tremendously expanded demand incident to large scale relief have prompted the New School to offer three fundamental courses in various aspects of the general field of social work by Dr. Frieda Wunderlich, member of the graduate faculty of the New School; Dr. Fritz Wittels, psychoanalyst, and Miss Mary L. Whitehead, case supervisor of the Old Age Security Division, New York City.

TRAINING TEACHERS IN SERVICE AT NORTHWESTERN UNIVERSITY

NORTHWESTERN UNIVERSITY will cooperate with the Board of Education of the Chicago public schools in a new program of training for teachers in actual service. Courses in the study of the solution of daily classroom problems will be offered by the School of Education and at the University College, the downtown division, in various centers in the city.

Dean Ernest O. Melby, of the School of Education, has made the following statement:

> The in-service training program launched by the university with the cooperation of the Chicago Public Schools is somewhat of an innovation in the Chicago area. The proposal originally came from Superintendent William J. Bogan and the entire program has been worked out in collaboration with him and members of his staff. To date more than 2,300 Chicago teachers have indicated their interest in the project. One course alone has attracted the interest of more than 800 teachers.
>
> New teachers with modern training are gradually coming into the schools, but the turn-over is small and the great hope for improvement lies in training the teachers already at work in the schools. There is also the fact that education as a profession is changing so rapidly that every teacher must be a constant student of her problems.

The content of these new classes includes both curricular and extra-curricular phases of the teacher's contact with her students. A course in creative dramatics aims to train the teacher in developing a pupil's talents; another on the activity curriculum aims to develop intelligent self-direction and desirable social habits in the child. There is a course in educational and vocational guidance and another in mental hygiene and personality development, and still another in social studies.

This project forms an integral part of the curriculum of the School of Education and courses may be either applied against the requirements for academic degrees, or may be audited without university or promotional credit and without examinations, for a proportionately lower tuition fee.

The faculty for these new extensions consists of George E. Axtelle, White Brogan and Eldridge T. McSwain, assistant professors; Harold C. Coffman, visiting professor from Teachers College, Columbia University; Paul A. Witty, professor; Francis C. Rosecrance, associate professor; William Gellerman, instructor; Josephine Maloney and Louis U. Newkirk, lecturers, all of the School of Education, and Winifred Ward, assistant professor of dramatic production and director of children's theater, who has charge of the course on creative dramatics for children.

In addition to regular courses a program of special lectures will be presented by several leaders in American education, each lecturer making a number of appearances. The lectures will be free to members of the courses from any of the class-centers.

COURSES FOR EDUCATIONAL WORKERS AT TEACHERS COLLEGE, COLUMBIA UNIVERSITY

TEACHERS COLLEGE, Columbia University, announces more than five hundred afternoon, evening and Saturday courses in education, for teachers and other workers in service.

In order to aid the teachers in the metropolitan area who may wish to continue their college work, bachelor and masters degrees can be secured by attending classes in the late afternoon or evening. A special advisory service, with Professor Willard S. Elsbree in charge, is provided for workers in the metropolitan area.

The offering in educational psychology at hours convenient for educational workers in service represents a considerable increase in both number and variety in comparison with former years. Special research and problems courses, designed to assist the student in correlating instruction at Teachers College with the special problems encountered in the student's professional work in the field are listed.

Dr. Hager, acting secretary of the college, reports that a variety of facilities and special equipment is available.

The newly-established Guidance Laboratory is well equipped with tests, apparatus and materials for use in psychological and educational examinations. It is also provided with soundproof, light-proof and one-way vision rooms, and other rooms for practice and demonstration.

The Statistical Laboratory contains modern computing and tabulating machines. The Child Development Laboratory provides facilities for the observation, study, and guidance of young children, and the study of parent-child relationships; the Mental Hygiene Clinic handles many and varied cases of unadjusted individuals.

Courses are offered in child psychology, psychology of skills, improvement of reading, mental hygiene, vocational testing, individual diagnosis and intelligence testing.

The Child Development Institute offers opportunity for study and research in child development and parent education for advanced students. The institute attempts through its laboratories and field work to bring students into intimate contact with children and parents, and with the agencies which are promoting programs of welfare and education, such as homes, clinics, juvenile courts, maternity centers, settlement houses and nursery schools.

A research program under the direction of Dr. Lois Hayden Meek includes psychological, anthropometric, nutritional, sociological and educational studies of children. Through the cooperation of Lincoln School, children from three to seven years of age are available for research studies. The institute conducts a family consultation bureau in cooperation with other departments of Teachers College and the university.

Regular courses will be given on the relation of teachers and parents, development and guidance of children, family relationships, mental and social development of young children and physical development of children.

THE NATIONAL HEADQUARTERS OF THE PROGRESSIVE EDUCATION ASSOCIATION

THE Progressive Education Association has transferred its national headquarters from 716 Jackson Place, Washington, D. C., to its new home at 310 West 90th Street, New York City, where, together with two of its important commissions, it occupies an entire building. At the same time, with the coming issue, it is making changes in its magazine, *Progressive Education*.

The two lower floors of the building are given

over to the executive and editorial offices of the association.

The third floor will house the research staff of Dr. Carolyn Zachry's Committee on the Study of Adolescence, a subcommittee of the Commission on the Secondary Curriculum.

The fourth floor is the home of the research staff of a new Commission on Human Relations, organized during July. The new commission plans to bring together the facts and understandings which will clarify the issues faced by the adolescent to-day.

Dr. Alice V. Keliher, elementary supervisor of the Hartford (Conn.) public schools, has accepted the chairmanship of the commission. Associated with her, devoting part or full time to the work of the commission, will be Earl Goudey, Bronxville public schools; Leo Huberman, *Scholastic Magazine;* Miss Louise Rosenblatt, Barnard College; Robert Wunsch, Black Mountain College; Miss Edna Albers, research assistant, recently a student at Sarah Lawrence College, and Miss Elizabeth Vogler, Black Mountain College, who will be secretary. Willard W. Beatty, superintendent of the Bronxville, N. Y., schools, president of the association, makes the following statement in regard to the new plans:

> We have long felt that progressive educators should take advantage and use for the furthering of educational goals as many of the modern instruments as possible both in implementing themselves for the large tasks of educating and in attracting favorable attention to their efforts.
>
> The utilization of the modern techniques in the graphic arts seems to be a natural step for an organization which must never stop in its efforts for its own development or in its work for social improvement. Beginning with the October issue, *Progressive Education* will be printed largely by an improved off-set method, permitting the use of many illustrations which will help teacher and administrator to a far better visualization of the methods and products described in the text.

THE CONVOCATION OF THE UNIVERSITY OF THE STATE OF NEW YORK

THE annual Convocation of the University of the State of New York under the auspices of the Board of Regents will be held on Thursday and Friday, October 17 and 18, at the State Education Building in Albany. The first session will be held on Thursday evening. On Friday there will be sessions both morning and afternoon.

The theme of the convocation will be secondary education. This is regarded as appropriate since the year 1935 is being observed as the Tercentenary of Secondary Education in America.

At the opening session the theme will be devoted to the contribution of secondary education to society. The point of view of the layman as well as the opinion of the professional educator will enter into the discussions and speakers representing lay groups will be included.

The session on Friday morning will emphasize the historical significance of secondary education in the nation as well as in the state of New York. The closing session on Friday afternoon will deal with the philosophy underlying the present trends of secondary education. The increasing demands on secondary education and the relationship between high-school training and social and economic welfare are challenging phases of this problem which will be under discussion. It is also anticipated that problems having to do with the relationship between the secondary school and the college will be discussed by those well qualified to deal with this theme.

These annual convocations bring together each year one of the most representative groups from the entire state. Those present will include college presidents, school administrators, superintendents of schools, high-school principals and leaders representing every type of educational institution. It is also the intention to insure a very representative lay group whose thought and opinion can not be omitted in general discussions of these timely and important problems.

The chairman of the regents committee having the convocation in charge is William Leland Thompson, of Troy. Among speakers who have accepted definite places on the program are: Edward A. Filene, of Boston; Dr. Dixon Ryan Fox, president of Union College, Schenectady; Dr. Lewis Perry, principal of Exeter Academy, Exeter, N. H.; Dr. Harold G. Campbell, superintendent of schools, New York City; Dr. Harry E. Pratt, principal of Albany High School, and Dr. Thomas H. Briggs, professor of secondary education, Teachers College, Columbia University.

There will also be musical numbers of unusually high standard which will be provided by the a-capella choir of the Benjamin Franklin High School of Rochester. It is expected that the complete program will be available at an early date.

The emphasis that is being given to the problems of secondary education and the wide-spread interest in its reorganization make the program of unusual interest to high-school principals. It is therefore anticipated that in addition to the college representatives and the superintendents of schools there will be a large attendance of high-school principals and teachers.

EDUCATIONAL NOTES AND NEWS

DR. JUDAH L. MAGNES, who since the founding in 1923 of the Hebrew University, Palestine, has been chancellor, was elected president on September 10. He succeeds Dr. Chaim Weizmann, who has held the position since the inception of the university.

M. BOUGLÉ, professor of the history of social economics at the University of Paris and adjunct director of the Higher Normal School, has been appointed director to succeed M. Vessiot, who has retired. M. George Bruhat, professor of physics, will succeed M. Bouglé as adjunct director.

THE MOST REV. DR. RALPH LEO HAYES, fourth bishop of the Diocese of Helena, Mont., has been chosen rector of the American College in Rome.

SIR JOSIAH STAMP was elected president of the British Association for the Advancement of Science at the recent meeting at Norwich. Sir Josiah is chairman of the London, Midland and Scottish Railway, director of the Bank of England and a member of the British Economic Advisory Council.

GEORGE SANGSTER, Toronto, was elected president of the Canadian Workers' Educational Association at their annual convention, which has just closed. Other officers elected were: *First Vice-president,* Henry Wigglesworth, Stratford; *Second Vice-president,* Harvey Burkholder, Kitchener; *Third Vice-president,* James Cunningham, Toronto; *Secretary-treasurer,* Drummond Wren, Toronto. The directors include the officers and F. W. Pepper, Hamilton; George Keen, Brantford; William Dunn, Toronto, and W. W. Wood, Windsor.

DR. HOWARD A. DAWSON has joined the staff of the National Education Association as assistant director of the Research Division, to have special charge of problems of education in rural areas and to look after the interests of the Department of Rural Education. Dr. Dawson has resigned from the U. S. Office of Education, where he had been called by Dr. George F. Zook early in 1934 as consultant in school administration and finance. In this position he set up a plan for the administration of rural school aid by the Federal Emergency Relief Administration.

DR. E. H. MOORE, professor of sociology at the Oregon State College for the past seven years, has been appointed head of the newly created division of social work which was opened in September in Portland, Oregon, as a branch of the college of social science of the University of Oregon at Eugene. The division of social work will be conducted under the auspices of a number of welfare agencies. It will be on a graduate basis in accordance with the standards set up by the American Association of Schools of Social Work.

FRANK D. FORD has been appointed head master of the Grace Church School, New York City. He succeeds Henry N. Russell, who has retired.

MISS GRACE SPOFFORD, formerly dean of the Curtis Institute of Music, Philadelphia, has been appointed director of the School of Music at the Henry Street Settlement, New York City.

DR. ELROY NELSON, for the last two years head of the department of business administration at Rider College, has been appointed director of the School of Business Administration at Russell Sage College, Troy, N. Y.

THE governors of Clayesmore School, London, have announced the appointment of Evelyn Mansfield King as head master. He succeeds Aubrey de Selincourt, who has resigned the head mastership, but retains the title of warden.

RAO BAHADUR K. V. RANGASWAMY IYENGAR

has been appointed principal of the College of the Benares Hindu University.

DR. EDWIN BRAY PLACE, formerly a member of the faculty at the University of Colorado, has been called to Northwestern University to become chairman of the department of Romance languages.

AT the University of Virginia, Dr. Edward James McShane has been appointed professor of mathematics; Dr. Eller C. Howe, of New Mexico, associate professor of engineering, and Chapin Jones, associate professor of forestry.

R. E. WILLIAMS, formerly superintendent of the Spencer, S. D., schools, has been named CCC educational director for the state.

MISS EDITH M. BAKER, executive secretary of the Social Service Department of Washington University Clinics and Allied Hospitals, has been appointed by Secretary of Labor Perkins to an advisory committee which will deal with services to crippled children under the Social Security Act.

ROBERT B. TUNSTALL has been elected chairman of the Virginia State Library Board. He succeeds Dr. Lyon G. Tyler, who died last February.

IGNUS O. HORNSTEIN has been selected by the Board of Superintendents of New York City to fill the vacancy of assistant director of evening schools. He has been acting assistant director since the death of John D. Moffett in 1932.

DR. HENRY J. GERLING, superintendent of the St. Louis public schools, has pledged personally $25,000 to help to repay losses of 20,000 school children in two closed banks. Dr. Gerling offered the money at a recent meeting of the Board of Education after the St. Louis Court of Appeals had affirmed a decision that denied petitions of the children to have their claims against the Savings Trust Company placed in the preferred class.

GOVERNOR LEHMAN has invited Associate Superintendent William E. Grady, of New York City, to serve as chairman of a panel discussion on "Crime Prevention," to be held from September 30 to October 2. The panel will be part of a three-day conference on crime, delinquency and related topics.

DR. ROBERT MAYNARD HUTCHINS, president of the University of Chicago, will give a nation-wide broadcast on October 2. His subject will be "The Relation of the University to the Community."

DR. VIRGINIA C. GILDERSLEEVE, dean of Barnard College, Columbia University, returned on September 11 from a summer spent in England and France.

DR. ISAAC B. SCHRECKENGAST, chancellor emeritus of Nebraska Wesleyan University, died on September 8 at the age of seventy years.

DR. ALEXANDER CREVER ABBOTT, emeritus professor of hygiene and bacteriology at the University of Pennsylvania, died on September 11. He was seventy-five years of age.

OREL SAMUEL GRONER, since 1921 professor of chemistry at Bucknell University, Lewisburg, Pa., died on September 9. He was sixty-four years of age.

DR. WILLIAM MYNN THORNTON, a former chairman of the faculty of the University of Virginia and professor emeritus of applied mathematics, died on September 11. He was eighty-four years old.

MISS MARY RIPPON, a member of the faculty of the University of Colorado from its opening in 1877 to her retirement in 1909, died on September 9 at the age of eighty-five years.

APPLICATIONS to the PWA for funds for three additional buildings for the Oregon state system of higher education were approved recently by the State Board of Higher Education. The board had previously applied for grants for six buildings. The new projects, to cost $530,000, include the construction of a new building for physical education at the University of Oregon for which $350,000 has been requested; a new administration building at the Oregon Normal School, costing $100,000, and a new dormitory for girls at the Eastern Oregon Normal School, to cost $80,000. The projects, if approved by the PWA, will be financed entirely from federal loans and grants, the loans to be repaid over a period of years from funds derived from the building fee of $5 a term paid by each undergraduate student. No tax moneys will be used.

EMERGENCY collegiate centers will open in seventeen cities in New York State on October

1 for students unable to finance college courses. They will be financed as a Federal Works Progress Administration project, but all academic matters will be directed by the division of higher education of the State Department of Education. Last year approximately 2,100 students attended these colleges and 231 jobless teachers were employed. At a recent election in Ohio the voters generally sanctioned bond issues for poorly conditioned public schools. Proposals to issue bonds for new buildings and to provide additional operating funds were defeated. A tabulation of bond issues for school purposes showed that 22 of the approximately 30 proposed issues were approved in the rural areas, while in the urban centers they were rejected. Akron rejected a $2,900,000 issue, which represented 55 per cent. of the construction costs for several new high and elementary schools. Portsmouth defeated an issue for $457,900.

MORE than a hundred foreign exchange students from colleges and universities of Europe and South America participated in a conference of the Institute of International Education at Riverdale Country School, N. Y., from September 13 to 16. The object of the conference was to explain the American system of education. Universities in Austria, Hungary, Czechoslovakia, Italy, Switzerland, France, Germany and Spain were among the countries represented. The opening event was a dinner on Friday at which the speakers were Dr. Stephen P. Duggan, director of the institute; Frank S. Hackett, head master of Riverdale School, and Dr. Robert L. Kelly, of the Association of American Colleges.

THE annual Regional Library Conference was held at Bolton Landing, N. Y., on September 10. The proper method of selecting books for children and ways and means of interesting them in reading were topics discussed by 750 librarians present from New York and bordering states. Muriel E. Gilbert, of the Buffalo Public Library, led a discussion on "Work with Children," and Keyes D. Metcalf, of the New York Public Library, spoke on "Personnel." The conference is sponsored by the New York Library Association, in cooperation with similar groups in Connecicut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

THE gift of $5,000,000 as an endowment for the Graduate School of the University of Michigan has been announced. The donor is the Horace H. Rackham and Mary A. Rackham Fund of Detroit. The grant supplements many anonymous gifts which Mr. Rackham made to the institution during his lifetime. One million dollars will be used to construct an independent building for the Graduate School, on an area a block square, while the balance will become a perpetual endowment. The enlarged graduate school will be a memorial to Mr. Rackham.

CHANGES in Chicago's high-school courses to provide "education for the crowd," for students who are not going to college, are contemplated by William J. Bogan, superintendent of schools. A dispatch to *The New York Times* reports that it is his view that for more than eighty per cent. of students the courses are now crowded with non-essentials which waste time, largely because of the traditional view of the high school as a preparatory school for college. Some of the changes proposed are: Less foreign language and more science useful to the layman; less algebra and Latin and more training in elementary economics and citizenship; in English, less written composition and more training in oral expression; more physical education, more handicraft, more drawing of mechanical type, but no fads or foibles. For those who want them, the standard courses required for college admission are to be retained.

THE Kalamazoo Public Schools and Western State Teachers College at Kalamazoo are cooperating in the establishing of a new demonstration class in special education at the Woodard Building with Dr. Edna Rickey Lotz in charge of teacher training. This class will be in addition to the one that has been maintained by Western State for a number of years at the Paw Paw Training School and will provide greatly enlarged facilities for student-teacher participation as well as a center for public school clinical studies. Dr. Lotz was formerly in charge of the special class at the Paw Paw School. Her place there is being taken by Mrs. Lettie Gordon, formerly of Ludington, Mich.

UNDER an act of the last Rhode Island Legislature a department of education, headed by a director, is established as 1 of 11 branches of

the state government. This department contains a division of education, which includes the Rhode Island State College and the Rhode Island College of Education. A board of regents for these institutions replaces the former board of managers, its personnel consisting of the Governor, the Lieutenant Governor, the chief justice of the Supreme Court, the director of education, and the state budget director and comptroller *ex officio*, also two alumni members of the State College, an alumnus of the College of Education, and two qualified electors from the first and second congressional districts appointed by the Governor.

A COMPREHENSIVE educational program of free lectures for the coming season has been arranged by the Metropolitan Museum of Art, New York City. The reception accorded the free gallery talks given on week days for the first time last year, as well as those scheduled as in previous years on Saturdays and Sundays, is stated to have been so encouraging that the museum has decided to enlarge its program. During the past year the museum gave instruction to 72,804 persons at its various series of lectures. The new program will begin on October 1. Free general tours of the collections will be given on Tuesdays and Wednesdays at 11 A. M. and on Thursdays at 2 P. M., exclusive of holidays. Each lecture will afford the visitor an hour's survey of each of the more important collections. In general, the subjects are repeated in rotation through the season. The subjects covered are the collection of paintings, the classical and medieval collections, the Egyptian collection, European decorative arts, the American wing and the collection of prints.

THE seventh Pan American Congress on the Child will be held in Mexico City, from October 12 to 19, under the auspices of the department of public health. Dr. Abraham Ayala Gonzalez, chief of the department, is president of the organizing committee, and Dr. Alfonso Pruneda, general secretary. There will be the following seven sections of the congress; pediatric medicine, pediatric surgery and orthopedics, child hygiene, social service, legislation and education. Subjects to be treated in the medical section include rickets, allergic states in children and muco-hemorrhagic colitis; in the surgical and orthopedic section, focal infections, paralysis in children and tuberculous osteo-arthritis.

BERNHARD RUST, Reich Minister for Culture of Germany, has decreed that Jewish children are to be isolated in separate Jewish public schools after Easter of next year. The separation is not to be made on the basis of religion, according to a wireless dispatch to *The New York Times*. Any child who has either a Jewish father or a Jewish mother is to be compelled to attend a Jewish school, irrespective of whether he has been baptized or not. If there are twenty Jewish or half-Jewish children in a community, one of the separate schools provided by the decree is to be opened. The teachers in them are also to be Jewish, except where a Jew is not available for some special subject. The government has already given subsidies for the creation of separate private schools for Jewish children enrolled in synagogues. The number of pupils enrolled in such schools has increased rapidly since Adolf Hitler came into office. Now the system of subsidizing private schools is to be abandoned and state funds will be provided for compulsory Jewish public schools. In explaining the decree, it was further stated that propaganda functionaries in various parts of the Reich had made an investigation of the schools. It was stated that the presence of Jewish pupils disturbed the atmosphere in which those results could be obtained that the Propaganda Ministry regards as advantageous. A similar decree is also expected that will apply to the high schools and other superior schools, which are only free and public in Germany in a limited sense.

DISCUSSION

A NEGLECTED ASPECT OF VOCATIONAL GUIDANCE

TRADITIONALLY the field of vocational guidance has been thought of as embracing two major problems, namely, a determination of the pupil's vocational interests, plus some measurement of his aptitudes or abilities. To ever so many high-school teachers, these two types of

data are used as a foundation for all subsequent work in guidance. It is apparently assumed that by some magic, such as our old standby the "law of probability," pupils will interest themselves in vocations in the same ratios that these vocations will provide occupations later in life. In other words, we act as if we believed that approximately the same number of young men will be interested in and capable of medical study as will actually be needed later to practice medicine. The same is true of teaching, law, business, the trades and so on.

This misunderstanding of vocational guidance militates against any systematic and comprehensive program. One author has compared vocational guidance to the plans that are made for a long trip by auto. If one were driving to New York, he says, it would be very foolish to start traveling without having the car carefully checked, studying road maps, planning stopovers and the like. These preliminary precautions he likened to vocational guidance, but, as is so frequently true, the analogy is misleading. It would be much more accurate to compare many attempts at guidance with a trip taken to some volcanic island, which, as likely as not, wouldn't be there when the ship arrived. We measure interests and abilities and let this determine our advice, with a minimum of attention to the actual opportunities for work in the vocation at issue.

A vocational worker counseling boys and girls in a large number of southeastern Nebraska high schools found fifty youngsters who have set their hearts on "cosmetology" as a life work. No good standard dictionary is sufficiently abreast of the times to include this altogether respectable word, but philologically it must mean "the science of ornament." This desire on the part of a rather large group of young people to become "cosmetologists," if it were encouraged, would illustrate the neglected aspect of vocational guidance to which I wish to call attention. We have placed too little emphasis upon actual job placement as against preference and training. We seem to have forgotten the all-important question, "Will the job for which our young friends have diligently prepared and to which they have looked forward be available when the time comes to step into it?"

This matter of vocational placement is obviously very important. All too frequently it is made subordinate by those whose livelihood depends upon the revenue accruing from the preparation of well-meaning young people for jobs which will never materialize. Magazine advertisements and radio talks prepared by some so-called educational agencies are frequently downright perjury—"the solemn assertion of a falsity." Nor is the guilt all with the commercial schools. State-supported teachers colleges throughout the country are doing all within their power to maintain enrolments, despite the fact that the present supply of teachers far exceeds the demand. The same is true of many colleges of law, engineering and dentistry. Medical schools are taking steps to limit enrolments, but probably from no motive more altruistic than to maintain good healthy salaries among practicing physicians. Officials connected with these tax-supported institutions are ready rationalizers. Faced with the necessity of keeping up the enrolment in order to get their share of the legislative appropriations, they have formulated many reasons for training vocationally more individuals than can be placed. Which means, of course, that the students' interests are sacrificed for considerations certainly less fundamental.

What to do is, as usual, the question. Probably these conditions are the inevitable consequence of an economic system, which assumes that every one is born free and equal, and that "rugged individualism" (cutthroat competition) is the way of social progress. Maybe it is impossible to have confidence in finding the job for which one has prepared himself when overproduction, poor distribution and warfare bring cyclical periods of unemployment for over 15 per cent. of a nation's workers. Why should the youth of fourteen set his heart on an occupation which won't exist when the time comes to enter it? What assurance can we give that a planned life will bring happiness in a chaotic economic order? Why attempt to map out an individual's future, only to have these well-laid plans come up hard against a wall of economic ignorance which shatters them?

These questions direct our thoughts in an

unpopular direction, but their portent is obvious. With things as they are, all programs of vocational guidance which imply relatively long terms of preparation are decidedly handicapped. It is unfair to encourage a youth to prepare himself for some vocation on the basis of his abilities and interests alone. No matter how well suited he may seem to be from a measurement of these attributes, a most important factor is, can he get a job? No one would have the temerity to predict the number of physicians, auto mechanics, teachers, lawyers, politicians and so on that will be needed ten years hence, yet we bristle with confidence in advising young people of certain abilities and interests to enter these vocations. And we continue to encourage them throughout long periods of preparation, almost regardless of the need for such types of work.

Some things could be done to remedy this situation. One measure that might help would be the wide circulation among high schools of annual occupational statistics, interpreted graphically, and showing trends toward and away from certain vocations. Such data, along with an approximation of the wages or salaries involved, might be of some assistance in choosing a life-work. These facts could be further supplemented by occupational studies tending to show the extent of oversupply as indicated by unemployment in any particular vocation. How much value studies of this nature might have as a basis for predicting future developments is highly questionable.

The fact that occupational data are not available for all communities is not an insurmountable difficulty. An excellent cooperative project for high-school classes in the social sciences might be the gathering of vocational statistics for a township or county. At least, such activity would serve to remind the pupil with one eye on the future that vocational success is influenced by many things beyond his immediate control. Rose-colored glasses are all right if one can see through them, but engendering an unjustified optimism on the part of students with respect to their future vocational chances is playing too roughly with immature hopes and ambitions.

STEPHEN M. COREY
UNIVERSITY OF NEBRASKA

"PERSONALITY TESTS" FOR PROFESSORS

AN editorial writer for the Chicago *Herald Examiner* said one time: "Sometimes I think the sun of promise never shines so brightly as through the plain glass windows of the small college, and the moonlight of association never sleeps so sweetly as on the narrow, dusty paths of small-college learning." This was probably dashed off in a mood of romanticizing about some particular college, but there is some truth as well as poetry in the statement. At the same time that rather loose generalization has become one of the most dangerous collegiate dogmas that still persists.

The small college has been wont to indulge in self-emulation because it has the unique advantage of personal contact between students and faculty, but I have wondered how seriously college administrations have ever tried to translate this opportunity into any actual and effective scheme. I am inclined to think that most small colleges have simply relied upon the subtle "contribution" of face-to-face contacts between professors and students, perhaps have encouraged them, but in the main have not added much to "Mark Hopkins-on-one-end-of-the-log" notion.

The bitter truth is that these face-to-face contacts are valuable only if the professor has something within himself that is strong and stimulating to give to the student. Unfortunately, there are few of the Mark Hopkins type and the formula loses its force when just the log and student are intended to be the college. On the average faculty there are just as many chances that the student will face a colorless, inhibited and impoverished personality as one that is vibrant and well adjusted.

It is difficult to gauge as to what extent a professor's own emotional problems are reflected in his handling of students in the classroom. Like the students he teaches, his own personality has been strongly conditioned by his early childhood experiences and the handling which he received. The relationship between present personality traits and early background is often unrecognized and compensatory reactions are allowed to develop unconsciously and unchecked. That the professor's personality make-up has a great effect upon the reactions of students under his care can scarcely be denied.

In considering the adjustment problems of students and the development of personality at Bethany College, the personnel office has given some attention to the rôle which the professor might possibly play. Are his attitudes such as to be helpful or damaging to his students? Do these face-to-face contacts actually contribute to personality growth? What demands does he make in the way of behavior and what are the rational and emotional bases for these? In an effort to direct the thinking of college professors at Bethany to this important item, a check list has been submitted to each member of the faculty. Each teacher is asked to appraise his own contribution to the personality growth in students. Such questions as the following are on the check list:

1—Do you recognize the defects in curriculum and method, not projecting these onto the students?

2—Are you more concerned over "why" a student is good or bad, than over getting conformity?

3—Do you avoid odious comparisons between students?

4—Do you avoid appealing to fear or humiliation?

5—Do you minimize talking to students about their conduct, rather controlling actions by changing situations?

6—Do you help groups create their own best standards of conduct, rather than expecting acceptance of traditional standards?

7—Do you train students in planning activities so that delayed assignments, tardiness, hectic rushes, wasted time, etc., are avoided?

8—Do you help students make the best of situations, not crying over spilt milk but using failures as guides to better future performance?

9—Do you give the self-pitying personality objectivity rather than sympathy?

10—Do you aim to develop independence and self-guidance in each student—looking toward less and less need for guidance?

11—Do you encourage facing reality; not glossing over failures or inadequacies, neither minimizing nor exaggerating achievements, never pretending to make much of matters really trivial?

12—Do you demand satisfactions from your students and from your own colleagues that are on an adolescent emotional level?

13—Are you free from touchiness, able to be courteous, when others might be hurt or indignant?

14—Do you understand and appreciate the dynamics of sex and the expressions that are healthy and normal?

15—Do you have a sense of values incorporated into a philosophy of life that guides your own behavior and your social thinking? Do these values change as new evidence and increasing experience warrant a revision?

It seems obvious that there must be this willingness on the part of professors and college officers to scrutinize and to criticize their own relationship to the problem, their emotional attitudes, the standards by which they measure conduct, and their methods of handling a student if the small college is to maintain honestly the *raison d'être* it has so loudly advertised. The problems of many students lie not, as has always been supposed, in the student himself but in the way in which this plastic impressionable creature has been handled by those who have touched his life as teacher and counselor.

FORREST H. KIRKPATRICK
BETHANY COLLEGE

SPECIAL CORRESPONDENCE

THE GERMAN "DOZENTEN-AKADEMIE"

THE schools of a nation are of paramount importance in the moulding of its future. They shape the young people's minds and souls. The essential factors in this task are not the organization of the educational system or the various curricula and up-to-date school buildings, but the quality of educators. The best organization and the most modern methods will be of no avail, if poor and inefficient teachers are in charge of a school, and *vice versa* a good teacher will achieve good results in spite of a poor organization.

These remarks characterize the national-socialistic attitude prevalent in the educational system of present-day Germany. With Teutonic

[1] Dozenten-Akademie: academy of docents. A teacher at a German university is called a Dozent, derived from the Latin docere.

thoroughness the authorities tackle the task of insuring the propagation of their philosophy and ideals through the medium of a loyal teaching staff. The "Dozenten-Akademie" was established with this purpose in mind.

After a candidate has met all other requirements for his habilitation, he will be admitted to the academy, which still is in its experimental stage. Requirements for habilitation are a Ph.D. degreee of at least three years' standing, an habilitation treatise, a scientific disputation, publications and Aryan stock.

The purpose of the "Dozenten-Akademie" is twofold, first to produce scientists and secondly to develop educators with national-socialistic convictions. Other objectives are intensified scientific research on a politico-scientific basis (*Weltanschauliche Vertiefung der wissenschaftlichen Arbeit*) and the reshaping of special fields of science (*Neugestaltung der wissenschaftlichen Facharbeit*).

Provision is made for two types of curricula: (1) Curriculum for prospective teachers on university level;[2] (2) Curriculum for special fields of science.[3]

Selection and scientific education is the objective of the first curriculum, which is in charge of a faculty, consisting of a chairman, who must be a scientist, several instructors and lecturers. The chairman is assisted by a head counselor in charge of athletics and other physical activities and a specialist in dramatics, music and similar subjects whose duty is the enrichment of camp life.

In order to make possible a thorough and painstaking selection of candidates, the enrolment must be limited to approximately 35 and no more than 40 participants. The selection is based on physical and character qualities as well as intellectual prowess and scientific achievement. The faculty members must be men in sympathy with national-socialistic ideals who have had ample experience in university life. They will be called upon to pass judgment on the qualifications and aptitudes of the candidates.

The educational preparation is to include (1) a general education of world-wide scope[4] and a general political will formation,[5] and (2) an introduction to the proper comprehension of the fundamental problems of higher education which must overcome absolute specialization[6] and must lead to the establishment of a new spirit.

All courses will be divided into three sections: (1) Present-day university situation—historical evolution, concept of university, liberalism, objective science, evolution and downfall of specialization, etc., in their relation to the history of the past 150 years. (2) Education, youth leadership, principles of leadership, systems of pedagogy, with special reference to the post-Rousseaux period, in their relationship to the world's history of intellect and religion of the last 2,000 years. (3) The new university, political university, Socialism, university reform and revolution.

The second curriculum was established for the purpose of giving a definite picture of the quantity and quality of the new crop of scientists in the various fields of science, thus making it possible to correct and prevent a possible shortage of new blood in certain fields.

Furthermore, it is deemed imperative that the courses bring out the relationship between scientific research and the necessity of this research in the light of national demand and need.

Throughout the duration of the courses, faculty and students live together in a compact community. The daily routine is to consist of a well-balanced program of intellectual endeavors, physical activity and recreation, which will have to be regulated according to practical experience.

Aside from a purely athletic program, physical activity is to include heavy manual labor, such as gardening, road-building, agricultural work, etc., because this type of activity is expected to stimulate a new type of intellectual and scientific efforts. Once or twice each week the intellectual work is to be interrupted through community enterprises such as hikes, visits to industrial establishments, etc.

A small library and a liberal supply of good periodicals and papers will be furnished each camp.

[2] Habilitanden Lehrgaenge.
[3] Wissenschaftliche Facharbeit.
[4] Weltanschauliche Erziehung.
[5] Allgemeine politische Willensbildung.
[6] The Nazis believe that all worth-while scientific research must be rooted in the nation's needs. They are opposed to science for the sake of science alone.

The art of oratory, which is neglected so much at the universities, will be practiced by the candidates in order to enable them to speak intelligently on any subjects in terms which can be understood by everybody.

The German Minister of Education will appoint a permanent chairman for the "Dozenten-Akademie," who is to be responsible to the state.

The leaders of the individual camps will be appointed by the minister upon the recommendation of the chairman of the academy. Instructors and lecturers will be appointed by the chairman upon the recommendation of the camp leaders. The candidates will be assigned to the camps by the office of education.

The curator of the nearest university is to be responsible for the administration of the individual camps.

The "Dozenten-Akademie," in its final analysis, is an institution for the additional selection in the university teacher's profession. Its main purpose is that of selecting the right type of educator in the realm of higher education. The standards, of course, are set by the national-socialistic state.

Whether it will be a permanent institution or not depends largely upon the course which it is going to follow in the near future. Should it remain exclusively a final station of selection, its function, very likely, will be taken over by progressive selection in the general educational system, but if it develops along the lines of the curriculum for special fields of science it may become a permanent institution for the methodical planning and regulating of new blood in the veins of science.

For the material upon which this article is based, the writer is indebted to Dr. Bacher, of the German Office of Education in Berlin.

HANS NABHOLZ

NEW YORK UNIVERSITY

QUOTATIONS

SECONDARY SCHOOL LIBRARIANS IN GREAT BRITAIN

A SUCCESSFUL summer vacation course for secondary school librarians has just ended at St. Hugh's College, Oxford. Under the aegis of the Board of Education, about 40 teacher librarians, of whom just under half were men, were assembled for a week's course.

A correspondent who attended the meeting writes of it:

The course aroused very keen interest among those attending, and the discussions were of a high order. It would be unfortunate therefore if the enthusiasm aroused by this course were to be allowed to die away for lack of facilities for following up the ideas engendered there. Fortunately there are grounds for hoping that this will not be the case. First of all there is the forthcoming issue of the report of the committee of inquiry into secondary school libraries. This committee, which is a very widely representative one, has been meeting for the last two years under the chairmanship of Salter Davies, and it is understood that its report is now in its final draft form and that its issue can be expected in the early autumn. The report is sure to focus in sharp relief the question of secondary school libraries, and it is hoped that real constructive work will follow in what is at present one of the least satisfactory features of our secondary schools.

At this point it may be well to summarize the three main aspects of this problem, to which attention will necessarily be directed. First of these, of course, is finance. In the past, with very few exceptions, school libraries have been starved for lack of money. The initial things are a block grant to every secondary school to put its library in order and an annual allowance to maintain it and develop it thereafter. Suggested figures will no doubt be forthcoming in the Carnegie committee's report. But it may at once be said that the views of local education authorities and governors as to what is an inadequate allowance for a library will need considerable revision in an upward direction if the needs of our schools are to be met in accordance with modern requirements. Doubtless the Board of Education will have suggestions to make in this connection, though the board will naturally, and quite rightly, leave the initiative and entire freedom of action to local authorities. School libraries fared very ill in 1931–32, when the

financial restriction imposed by the economy crisis came into effect. Those restrictions have now had their day, and should be withdrawn completely where they have not yet been abolished.

So far as accommodation is concerned, one principle seems to be of paramount importance. It is this, that the school library should always be housed in a separate room used solely for library purposes. In no circumstances should this requirement be affected by the needs of overcrowding or reorganization. Usually the library is the first place that is taken over to relieve overcrowding—essentially it ought to be the last of the rooms to be used for that purpose.

The question of equipment will need careful study; modern shelving, efficient cataloguing and suitable registers are required, and every endeavor should be made to make the equipment as labor saving and efficient as possible. Guidance on these points will be given by the Carnegie committee's report; it is also available in some of our best modern public libraries. The teacher librarian should be encouraged to acquaint himself, or herself, with all recent developments in this direction, for his time will be very heavily burdened by the needs of stock-taking, registration, purchases, issue and recall of books when his library develops on adequate lines.

The paramount requirement, however, is an enthusiastic and efficient librarian. The librarian is the key to the situation, and that is why the course recently held by the Board of Education has been so heartily welcomed. It has brought together from all parts of the country, for the first time on record, teacher librarians who are full of keenness for their work. The chief inspector of secondary schools and his assistants are to be congratulated in the steps they took to organize this course. We hope it will be repeated in future years on a larger scale, and that the enthusiasm aroused this year, and the study initiated, will be allowed full scope in the near future.—*Educational Supplement of the London Times.*

REPORTS

THE YOUTH COMMISSION PLANS FOR THE CARE AND EDUCATION OF AMERICAN YOUTH

DR. HOMER PRICE RAINEY, president of Bucknell University, was selected as director of the staff which will conduct a comprehensive study of the problems in the care and education of American youth, when the commission, organized by the American Council on Education, held its first meeting in Washington, D. C., on September 16. The project, one of the most significant developments in American education, was made possible by a substantial grant to the council from the General Education Board. The commission of fourteen outstanding civic and educational leaders will formulate plans for an extended inquiry into conditions now affecting American youth and will outline desirable methods and techniques for their care and education.

In announcing the establishment of the Youth Commission, Dr. George F. Zook, president of the American Council on Education, said:

> Recent social and economic changes in the United States have given rise to difficulties in the care and education of young people with which existing institutions are quite unprepared to deal adequately. The changes not only have greatly intensified the problems which confront the schools, but also have created an urgent need of protection and further education for millions of youth whom the schools are not reaching.
>
> Without some provision for continued basic planning to meet this situation, there is serious danger that present conditions may constitute a fundamental threat to the national welfare. I believe that the public and the great majority of workers in this field are deeply conscious of this danger and will welcome a comprehensive and thoughtfully conceived program for meeting it.
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> The commission should endeavor to integrate contributions that have been made or are being made for the solution of this problem, to stimulate new contributions in fields hitherto unexplored, and to encourage translation of the best that is known into practice on a wide scale.

The members of the commission are:

WILL W. ALEXANDER, Atlanta, Georgia. Mr. Alexander is an outstanding leader in the field of

race relations. A former clergyman, he has served with conspicuous success as the executive director of the Commission on Interracial Cooperation, and in 1928 was awarded the Harmon national award for services to American race relations.

NEWTON D. BAKER, Cleveland, Ohio. Mr. Baker, eminent attorney, distinguished himself as Secretary of War in the cabinet of President Wilson from 1916 to 1921. He was later named by President Coolidge as a member of the Permanent Court of Arbitration, The Hague. Mr. Baker has taken an active part in the work of many national and international movements for social improvement.

RALPH BUDD, Chicago, Illinois. Mr. Budd is a leading railway executive. He has advanced through the ranks of the organization to his present post as president of the Burlington Lines.

LOTUS D. COFFMAN, Minneapolis, Minnesota. Mr. Coffman, president of the University of Minnesota, is one of the best-known American educators. Now serving his third term as chairman of the American Council on Education, he has been active in the development of many other fields of education.

DOROTHY CANFIELD FISHER, Arlington, Vermont. Mrs. Fisher, one of America's best-known woman writers, has long been interested in the problems of education and young people. Her thought-provoking book, "Why Stop Learning?" crystallizes many of the difficulties which face the schools and people of this country.

WILLARD E. GIVENS, Washington, D. C. Mr. Givens, the secretary of the National Education Association of the United States, directs the activities of this influential educational organization. He formerly served as superintendent of schools in San Diego and Oakland, California.

HENRY I. HARRIMAN, Boston, Massachusetts. Mr. Harriman, past-president of the Chamber of Commerce of the United States, is an outstanding public utility executive. He is chairman of the Board of the New England Power Association and other major corporations.

ROBERT M. HUTCHINS, Chicago, Illinois. Mr. Hutchins, one of the youngest and most progressive college administrators in the country, is president of the University of Chicago.

CHESTER H. ROWELL, San Francisco, California. Mr. Rowell, editor of the *San Francisco Chronicle*, has a wide reputation as a lecturer and writer on political science. He is a trustee of the World Peace Foundation and has served on many national commissions dealing with social problems.

WILLIAM F. RUSSELL, New York, N. Y. Mr. Russell is dean of Teachers College of Columbia University. A former chairman of the American Council, he is recognized as a progressive educational leader.

EDITH B. STERN, New Orleans, Louisiana. Mrs. Stern is a well-known civic leader who has been keenly interested in the development of plans for the improvement of the nation's schools. Her interest in young people has given her a sympathetic appreciation of the problems confronting American youth.

JOHN W. STUDEBAKER, Washington, D. C. Mr. Studebaker has been United States Commissioner of Education since September, 1934. Formerly superintendent of schools of Des Moines, Iowa, he is nationally known for the public forums which he organized in that city.

MIRIAM VAN WATERS, Framingham, Massachusetts. Miss Van Waters, superintendent of the State Reformatory for Women at Framingham, Massachusetts, has been a leader in the field of American social work for many years. She has been particularly concerned with problems of juvenile delinquency and consulted with the National Committee on Law Observance and Enforcement on that subject. A former president of the National Conference on Social Work, she has written "Youth in Conflict" and "Parents on Probation," among other outstanding sociological contributions.

MATTHEW WOLL, New York, N. Y. Mr. Woll, vice-president of the American Federation of Labor, is a noted writer and lecturer on labor and economic topics. He served on President Harding's Unemployment Conference and is a member of the National Academy of Political Science of New York.

The council feels that it has selected a representative group of leaders in American civic and educational life. From a group of this consequence the public may expect during the ensuing years well-considered plans for meeting one of the most troublesome problems in American life. The attitude of the commission is indicated in the acceptance of Mr. Baker, who said, "I doubt whether any other research or survey has been proposed in my lifetime which seems to me to have a greater field of usefulness." Mrs. Dorothy Canfield Fisher stated, "I am honored to serve on the commission, even if I have to give up all other projects to be able to."

At the first meeting of the group a letter from President Franklin D. Roosevelt was read in which he lauded the formation of the commis-

sion. President Roosevelt wrote, "I am pleased to learn of the Commission of the American Council on Education which is to conduct a five-year study of the problems in the care and education of American youth. . . . To the members of the Youth Commission please extend my best wishes together with my confident expectation that your commission and the National Youth Administration may be mutually helpful and effective in their efforts for American youth."

Aubrey Williams, director of the National Youth Administration, met with the group at its first meeting.

A four-fold undertaking was outlined in the preliminary statement of the project which was presented by the council.

(1) A comprehensive analysis of the characteristics of youth, and an evaluation of the influences to which they are subject.

(2) The continuous study of commonly accepted goals in the care and education of American youth, for the purpose of determining the adequacy of these goals in relation to present social, economic and political trends.

(3) The investigation of agencies concerned with the youth problem, and the eventual recommendation of procedures which seems to influence young people most effectively.

(4) The systematic popularization and promotion of desirable plans of action through conferences, publications and demonstrations of promising procedures.

Particular attention has been given in the preparation of the study to those young people who are out of school. Dr. Zook called to the notice of the group the part that youth plays in present-day crime. Of the total number of arrests reported to the Department of Justice during 1934, 114,233, or 37.5 per cent., were under 25 years of age. The largest number of arrests at any one age were those at 19 years. He pointed out that fully 3,000,000 boys and girls in the rural areas of the country are now unable to fulfil their educational aspirations. Certainly the Youth Commission will need to consider seriously the problems of this important group of young Americans.

In selecting Dr. Rainey as director of the staff, the Youth Commission has secured the services of a man who is widely known as a liberal educational administrator. Dr. Rainey, 39 years of age, has been president of Bucknell University since August, 1931. Prior to that he was president of Franklin College, and professor of education at the University of Oregon.

At Bucknell, Dr. Rainey became nationally known for sponsoring a program of liberal education in which the arts have a prominent part. He urged for students the increase of opportunity for creative expression in literature as well as in the fine arts, and rearranged the curriculum so that the laboratory method was applied in these fields.

Dr. Rainey's participation in social and educational programs of widely divergent types has qualified him for the peculiar responsibilities of this new office. He came to Washington for the meeting of the commission from the University of Minnesota, where he had been a sectional chairman of the conference on research in higher education.

In accepting the post as director of the study, Dr. Rainey said to the commission:

I greatly appreciate this opportunity of working with you and for you on this enterprise. I sincerely believe that this project is the most significant step that has been undertaken to plan a comprehensive program for the care and education of American youth.

We are charged to "take account of the needs of all young people, whether they are reached by existing social agencies or not, who are approximately 12 years of age and upward." This problem is so vast that it almost baffles one to know where to take hold. Our first problem, therefore, is to define rather carefully the limits of our task. The following procedure is suggested for your approval:

(1) We shall need to know in as great detail as possible what *is* the youth problem. We should, therefore, make a comprehensive study of the problem, and formulate a composite picture of it.

(2) There are many agencies working in this field, and there is a vast amount of data bearing upon this subject. We shall want to study and evaluate the contributions which these agencies are making.

(3) We should start at once a study of the characteristics of youth, as suggested by the Committee of the American Council.

(4) We are commissioned to make a critical evaluation of the goals of our great educational system, and to formulate a set of desirable objectives for the entire field of secondary education.

(5) We shall need to consider the leisure time activities of youth and to make definite recommendations to the American people for the development of leisure time programs for their respective communities.

(6) We must study also the problems of secondary and general education in rural districts and small towns, for approximately two thirds of all high-school-age students are in schools of an enrolment of one hundred or less.

(7) There is also great need for an investigation into vocational opportunities and needs of youth—the types of jobs they enter, the conditions of work and progress on these jobs, and the most effective and efficient methods of training needed in preparation. In this connection we need to give consideration to the possibilities of a much greater differentiation of our entire educational program to meet the varying needs and abilities of American youth.

(8) Doubtless the greatest need in American life is to put into action the best that is now known concerning the solution of the problems of youth. We should examine the numerous experiments now under way and recommend their tested results to the American people. We should likewise set up new experiments of our own wherever they seem desirable and wise.

Dr. Rainey will supervise a staff of well-trained and capable people who will compose a more or less permanent organization in Washington, including workers in psychology, sociology, secondary education, vocational education, recreation, character education and statistics. He suggested to the commission that they consider the desirability of conducting a series of open hearings or forums in various sections of the United States for the purpose of collecting information, opinions and attitudes toward the problems of youth.

The commission has emphasized that it will work with existing agencies in the formulation of all plans for the care and education of youth. However, it is believed that no agency now exists which can capitalize and extend the good practices, integrate the present contributions or stimulate new contributions in fields hitherto unexplored. Both the public and the great majority of workers in the field are anxiously seeking a solution to this situation. The Youth Commission hopes to fulfil that purpose.

DONALD J. SHANK,
Assistant to the President,
American Council on Education

EDUCATIONAL RESEARCH AND STATISTICS

STUDY HABITS

IN the course of student conferences the writer has been at a frequent loss to pick out the exact reason or reasons for poor classroom work. Checks have been made on methods of study, note-taking, social activities, outside employment, living arrangements and other factors that enter into student life at a large university.

To go through such a long interview with a large number of students in the course of a quarter is a rather exhausting experience. If some method could be found by which a clear picture of a student's study habits could be secured quickly and correctly, then time would be saved and more concrete suggestions could be made. Search was made for a test that would serve this purpose. Wrenn's Study-Habits Inventory is the one that was finally selected for trial. Before adopting its use to any great extent in student interviews, the test was given experimentally to a group of students and the results were studied in terms of academic performance. The experiences and results of this testing program constitute the basis for this article on study habits.

The students selected for the administration of this test were freshmen in the College of Commerce and Administration of the Ohio State University. They were in their third quarter of residence. The course is one of the series required of all students in their first year's work in the college. There were six sections, taught by five instructors, all seasoned teachers. Four of these sections were being handled on the regular basis of approximately 30 students to a section. The other two were double sections, 60 or more, each taught by one instructor. A regular class hour was used for the test. In one case, it was given by the instructor. In the other sections it was administered by the writer. A careful explanation was made of its purpose, and students were urged to be as frank as possible in their answers, yet truthful as to their exact habits of study.

When the results of the test became available it was apparent immediately that some interesting facts had been discovered. The raw scores ran all the way from +96 to −91. The median score was +12. Quartile one was −16, while quartile three was +36. Serious inconsistencies were observed between the study-habits scores and the quality of student performance already exhibited by grades earned in previous courses. These were particularly conspicuous on the extremes. Table I has been constructed to show the relationship of the study scores to the cumulative point ratio of these students as it existed at the opening of the spring quarter. The scholastic ratio has been broken down to half-point intervals as used in the Ohio State University scoring and grading system. In this system A = 4, B = 3, C = 2, D = 1, E = 0. The coefficient of correlation for this table is .239.

TABLE I

RELATION OF STUDY-HABITS SCORES TO CUMULATIVE POINT RATIO

Cum. ratios	.00–.49	.50–.99	1.00–1.49	1.50–1.99	2.00–2.49	2.50–2.99	3.00–3.49	3.50–3.99	4.00	Totals
Study scores:										
56–96			1	2	2	11	5	3		24
41–55			2	6	5	2	4			19
31–40		1	3	6	7	5	4	2		28
21–30	1	1		6	15	3	4	1		31
11–20		1	2	7	9	1	4			24
1–10			8	7	6	6	4			31
(−1)–(−10)		1	4	3	10	2	3			23
(−11)–(−20)			4	10	2	4	2			22
(−21)–(−40)			5	9	7	4	2	1		28
(−41)–(−91)		2	4	10	8	1	1			26
Totals	1	6	33	66	71	39	33	7		256

An inspection of Table I shows that of the 99 students with minus study scores, substantially one half are to the left and one half to the right of the 2.00 line (C average). Of the 106 students below C average, 54 have plus scores on the study test and 52 have minus scores. Again, of 40 students with B or better averages (3.00), all levels of the study test scores are represented.

These discrepancies were made the subject of personal conferences with students. An effort was made to find out how a good academic record is connected with a low study habits score. Likewise inquiry was made of poor students why good study-habit patterns should not bring better course grades. Invariably the students maintained that they had answered the test questions to the best of their ability. None were willing to make any changes in their test markings. It therefore became very clear that the test scores on the study-habits inventory were not much in line with the known academic records.

To test the study-habits results more thoroughly, they were compared with the intelligence test scores on the same individuals. Table II shows the comparison. Its coefficient of correlation is .182, thus being lower than the relation to the cumulative point ratios. The difference in numbers of the two tables is explained by the presence in the classes of students in their first quarter of residence for whom no previous university academic records exist.

TABLE II

RELATION OF STUDY-HABITS SCORES TO INTELLIGENCE TEST SCORES

Intelligence	1–10	11–20	21–30	31–40	41–50	51–60	61–70	71–80	81–90	91–100	Totals
Study scores:											
56–96		2				1	1	8	7	6	25
41–55	1		3			2	4	2	3	5	20
31–40	2	1	1	3		4	4	2	6	8	31
21–30	1		1	2		8	2	6	3	8	31
11–20	2			2	3	4	1	3	3	5	23
1–10	1	2	4	2	2	4	2	10	2	4	33
(−1)–(−10) .		1	3	3	3	4	2	1	3	3	23
(−11)–(−20) .	1	3		2	2	5	1		5	5	24
(−21)–(−40) .	1	3	3			4	6	2	6	4	29
(−41)–(−91) .	1	2	1	4		3	6	7	2	1	27
Totals ...	10	14	16	18	10	39	29	41	40	49	266

Again it is evident that little relationship exists between study-habits and intelligence as measured by these two tests. Students with low intelligence test percentiles are scoring high in study methods. Of 68 students scoring in the lower half of the intelligence test, exactly 34 are in the plus and minus sections of the study-habits test. Of the 130 students in the upper third of the intelligence test, 39 or one third were in the minus sections of the study-habits test.

In order to make this part of the study complete, the intelligence test scores were correlated with the known academic records of the students for their first two quarters in school. These results are shown in Table III. The coefficient of correlation secured here is .561. This figure is consistently in line with the relationship being secured for these two factors in other studies.

The table presents an entirely different picture from the ones in Tables I and II, and again in Table IV, which follows. The distribution shows a much closer relationship between the

TABLE III

RELATION OF INTELLIGENCE TEST PERCENTILES TO CUMULATIVE POINT RATIOS

Cum. ratios	.00–.49	.50–.99	1.00–1.49	1.50–1.99	2.00–2.49	2.50–2.99	3.00–3.49	3.50–3.99	4.00	Totals
Intelligence:										
91–100				6	9	10	19	5		49
81–90			1	5	7	14	7	2		36
71–80		1	1	10	20	7	2	1		42
61–70			3	9	11	4	2			29
51–60		2	4	15	11	2	3			37
41–50			4	3	3	1				11
31–40		1	3	5	8					17
21–30		2	7	6	2					17
11–20			6	5	1					12
1–10	1		4	4	1					10
Totals	1	6	33	68	73	38	33	8		260

factors under comparison than has been evident in the other cases.

In an effort to make the results of this testing program useful to the students concerned, the writer met these classes again and went over the data. The tests were returned to the students so each one could see exactly what his weaknesses might be. A general discussion followed as to methods for improvement. Constructive suggestions were made. Students were urged to read and adopt the methods outlined by Mr. Wrenn in his booklet entitled "Practical Study Aids," 100 copies of which had been purchased and placed in the college library for circulation.

Throughout this period the question was raised as to the ultimate effects of these efforts on the final grades in the course. It was hoped that any improvement in study methods would show up in improved course work and hence in higher final grades. Some evidence exists that such results were secured. The failure rate in the course was lower than usual. Some thirty-five students with poor records to date succeeded in earning a "C" grade in the course, while a few others rated "B." Of course, some of them might have done the same thing, had no emphasis been placed on study methods. In order to make this record complete, the distribution of final grades in the course is given in Table IV with the correlation against the study-habits scores.

The distribution shows little relationship between the two factors. The coefficient of correlation is .265, substantially the same as that between the study-habits scores and the cumulative point ratios. The highest grade in the course (A) is distributed within every study group except the lowest one. Failures, however, are heavily concentrated in the minus scores of the study test.

TABLE IV

RELATION OF FINAL GRADES TO STUDY-HABITS SCORES

Final grades	E	D	C	B	A	Totals
Study-Habits Scores:						
56–96		3	5	10	5	23
41–55		5	7	7	1	20
31–40	2	1	13	6	6	28
21–30		5	13	12	2	32
11–20		2	13	6	2	23
1–10	2	6	11	7	3	29
(–1)–(–10)	3	4	12	4	1	24
(–11)–(–20)	2	4	10	5	1	22
(–21)–(–40)	2	6	11	5	3	27
(–41)–(–91)	3	7	12	4		26
Totals	14	43	107	66	24	254

Without raising any questions as to the method of assigning grades in the courses, because great care was exercised in this regard, it is very evident that we know little about the inside of students' minds and their workings. A study habit that means success to one is evidently a means of failure for another. The question has been asked of successful students, "Tell me, how do you do it? What are your methods?" Answers have been indefinite. The same question has been put to failing—repeaters. Answers have contained all the methods that successful students are supposed to use. Hence it appears we have a long way to go yet before we capture the exact techniques that make a successful study-habit pattern. It is a very complex arrangement. The writer is still looking for a quick and satisfactory method of getting a picture of the study-habit patterns of college students.

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A COMPARISON OF THE INTELLIGENCE OF HIGH-SCHOOL ATHLETES WITH NON-ATHLETES

FOR years the relationship between "brain and brawn" has led to many interesting discussions. Some people consider athletics an activity in which physical strength is the only requirement, while others contend that intelligence is also necessary. These different opinions indicate the need for an objective study in this field. The investigation reported below grew out of this

felt need and seeks to answer the following question, "Is the intelligence of high-school athletes greater or less than that of non-athletes?"

In order to establish some basis for study, an athlete is interpreted to mean any student who had been on an interscholastic athletic team and qualified for an award. All other students were classified as non-athletes. Intelligence was measured by means of the Illinois General Intelligence Scale.

The data for this study were obtained at the Washington High School of Indianapolis, Ind. This school has a cosmopolitan student body, students attending from all parts of the city. The average enrolment of the school during the years of this study was approximately 1,500 students.

Only the boys who entered the high school during the years 1929, 1930 and 1931 were included in this investigation. The boys who entered the high school after 1931 were not included because such pupils have not had full four years in which to qualify as athletes. Girls were omitted because interscholastic athletics is limited largely to boys.

Each semester all students new to the high school were given the Illinois General Intelligence Scale, Form 1. Intelligence quotients were calculated and recorded on individual record cards. It was from these cards that the intelligence quotients of the boys were secured. A complete list of athletes who entered school during these years was obtained from the office of the athletic director. The names of the boys, accompanied by their I.Q.'s, were divided into the non-athletic and athletic groups and studied statistically. Five hundred and seventy-three cases were included, 493 of whom were non-athletes and 80 were athletes.

The findings of this study are shown graphically in Fig. 1. The continuous line represents the I.Q.'s of the non-athletes, and the broken line the I.Q.'s of the athletes. Examination of the curves shows that there is a smaller per cent. of athletes than non-athletes with I.Q.'s below 90. Between the points where the I.Q.'s range from 90 to 120 the curve of the athletes is higher than that of the non-athletes, except at the point where the I.Q.'s are 105. This would indicate

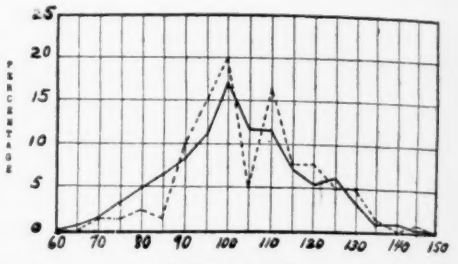

FIG. 1. Distribution of intelligence quotients of the non-athletic and athletic groups.——Non-athletes; - - - - -Athletes.

that a greater percentage of athletes than non-athletes are in this group. In the range from 120 to 145 the curves are closer together, first one then the other being higher, indicating that the percentage of both athletes and non-athletes in this group range are approximately the same.

The results of this study lead to the following conclusions: (1) High-school athletes are more intelligent than non-athletes; (2) there is a smaller percentage of athletes than non-athletes in the lower intelligence levels; (3) a larger percentage of the athletes than of the non-athletes is in the normal and superior groups of intelligence; (4) in the very superior and near genius groups the percentage of athletes and non-athletes is approximately the same.

ROWLAND H. JONES

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